

DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT
for the
French Meadows Project

USDA FOREST SERVICE, TAHOE NATIONAL FOREST
AMERICAN RIVER RANGER DISTRICT
PLACER COUNTY, CA

INTRODUCTION

The Tahoe National Forest has been engaged in a collaborative effort with partners, including the American River Conservancy, Sierra Nevada Conservancy, Placer County Water Agency, The Nature Conservancy, Sierra Nevada Research Institute, and Placer County, to restore lands in proximity to French Meadows Reservoir. The American River Conservancy (ARC), the largest private landowner in the Middle Fork American River headwaters, is managing its lands to protect and restore ecological values, promote forest and watershed health, reduce the risk of high-severity wildfire, and allow public recreation consistent with these values. Sierra Nevada Conservancy (SNC) has partnered with the Forest Service to increase the pace and scale of ecological restoration in the Middle Fork American River headwaters as part of a comprehensive, coordinated watershed improvement program. Placer County Water Agency (PCWA) owns and operates the French Meadows Reservoir utility infrastructure for public water supply, hydroelectric power generation, and recreation. These stakeholders, along with The Nature Conservancy (TNC), Sierra Nevada Research Institute (SNRI), and Placer County, have identified an imperative need to manage this area to improve ecological conditions and watershed health while reducing the potential for severe wildfire impacts, collaborating with the Forest Service to promote ecologically-based, landscape-scale management and develop an “all lands” approach to enhance the health and resiliency of the upper Middle Fork American River watershed.

The French Meadows Project is an outgrowth of this collaboration. Goals for the Project include promoting forest resilience to stressors such as wildfire, insect and disease outbreaks, and climate change; reducing the risk of uncharacteristic, high-severity wildfire; protecting and restoring habitat for fish and wildlife; and safeguarding water supply and resources. The Project design is grounded in ecologically-based forest management, as described in General Technical Reports PSW-GTR-220 and 237 (North et al., 2009, 2012), to increase forest stand resilience while maintaining mature forest characteristics. As detailed in the French Meadows Project Environmental Assessment, the Project purpose and design is consistent with management direction in the *Tahoe National Forest Land and Resource Management Plan* (LRMP 1990) as amended by the *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD 2004), collectively referred to as the Forest Plan. The Project’s forest restoration treatments include mechanical thinning, mastication, hand thinning, reforestation, and application of prescribed fire on a total of approximately 12,183 acres.

DECISION AND RATIONALE

I have read the French Meadows Project Environmental Assessment (EA), reviewed the analyses contained in the Project Record, including documents incorporated by reference, and fully understand the environmental effects disclosed therein. After careful consideration of the analysis, applicable laws, the *Tahoe National Forest Land and Resource Management Plan* (1990) as amended, and public comments, I have selected Alternative 1. My decision is based on a review of the record, which demonstrates that a thorough environmental analysis, using best available science, was completed for this project.

Alternative 1 is fully described in the EA, Chapter 2 on pages 13-43 and its environmental effects are described at the end of Chapter 2 and throughout Chapter 3. Under Alternative 1, a variety of forest restoration treatments, including mechanical thinning, mastication, hand thinning, reforestation, and use of prescribed fire, will be conducted on a total of approximately 12,183 acres in specific locations. Treatments are designed to reduce potential wildfire intensity and severity, reduce accumulation of surface and ladder fuels, improve forest health and resiliency, and enhance structure and function of forested lands across a broad landscape on National Forest System lands in the French Meadows Project area. The project also includes associated construction of non-motorized recreation trails, road reconditioning, road decommissioning and closures, temporary road construction, and hazard tree removal along designated trails and recreation facilities within the Project area. Management requirements included in Alternative 1 to reduce or prevent potential adverse effects associated with this decision are described in the EA, Chapter 2, Management Requirements (pages 25-36).

My rationale for selecting Alternative 1 is:

1. Alternative 1 would more effectively achieve the Project's Purpose and Need (described in the EA on pages 4-10 and 37-43) compared to Alternatives 2 and 3. Of particular importance to me are the goals of restoring a resilient, healthy landscape, and protecting forest resources and infrastructure from the adverse impacts of a large, severe wildfire (Purpose and Need 1 and 2 in the EA).
 - a. Of the three alternatives analyzed in the EA, Alternative 1 best meets the need to promote long-term forest health, resilience, and sustainability while maintaining important habitat for wildlife, including the California spotted owl. Specifically, Alternative 1 would bring the treated stands closer to the heterogeneous conditions described in "Ecosystem Management Strategy for Sierran Mixed-Conifer Forests" and "Managing Sierra Nevada Forests" by North et al. (2009 and 2012, respectively). Alternative 1 would achieve this goal more effectively than Alternative 3 because it proposes a greater acreage for ecologically-based mechanical thinning prior to application of follow-up prescribed fire (EA, Chapter 2, p. 17). Recent studies have shown that lower intensity prescribed fire alone, and/or a single application of prescribed fire, is less effective than mechanical thinning followed by prescribed fire in increasing heterogeneity and restoring species composition (Knapp et al. 2017). In addition, applying prescribed fire to the extent proposed in Alternative 3 poses a variety of logistical and economic challenges that could preclude full implementation of the burning proposed in Alternative 3. For all these reasons, Alternative 3 would be less effective in increasing resilience to environmental stressors and heterogeneity on the landscape level than Alternative 1.

The thinning treatments under Alternative 1 would reduce inter-tree competition and therefore increase growth rates, due to more light, moisture and nutrients being available to retained trees. This would create improved conditions for shade intolerant species to persist on the landscape and increase species diversity. Variable density thinning as proposed under Alternative 1 would

also create stand conditions permitting natural regeneration in small openings and contribute to structural diversity while maintaining suitable habitat for California spotted owls. North et al. (2017) concluded that management strategies designed to preserve and facilitate the growth of tall trees while reducing the cover and density of understory trees may improve forest resilience to drought and wildfire while also maintaining or promoting the characteristics of California spotted owl habitat.

In addition, thinning within California spotted owl home range core areas (HRCAs) will focus more intensively on areas with a preponderance of trees less than 20 inches in diameter, while retaining more clusters of larger trees and dense patches containing larger trees in concert with management intent for HRCAs (SNFPA ROD, p. 46). The relatively small amount of mechanical thinning proposed in HRCAs is designed to preserve key owl habitat components, including the largest trees and their connected canopies, snags, and logs, and would maintain at least 50 percent canopy cover, as further explained in responses to comments (Refer to Comment 21 in Attachment A). These design features are consistent with Forest Plan standards and guidelines for mechanical thinning treatments in mature forest habitat (SNFPA ROD 2004 Standard and Guideline #7, pp. 50 to 51).

As growing conditions improved under the Alternative 1 treatments, stands would be more resistant to environmental stress. Stand density reductions would result in decreased future competition-induced mortality. Tree mortality in forest stands is a main contributor to fuel loading over time. A reduction of mortality would result in a corresponding reduction in surface fuel loads.

- b. Alternative 1 would protect forest resources and infrastructure improvements within the Project area and beyond from potential severe wildfire effects. Alternative 1 substantially reduces modeled wildfire rates of spread, flame lengths, crown fire activity, fireline intensity, and burn probability compared to existing conditions (as represented by the No Action Alternative (Alternative 2)). Reducing fuel loadings and developing forest stands that are more resilient to wildfire impacts is a critical need in the Middle Fork American River headwaters, a large component of the Placer County municipal watershed that provides domestic water and hydropower. The value of this publicly-owned infrastructure approaches two billion dollars, including water storage and conveyance facilities, hydroelectric power generation stations, roads, and communication and recreation facilities. Modeling results for both Alternatives 1 and 3 show reduced potential wildfire behavior in the French Meadows Project area and the larger Middle Fork American River headwaters compared to the No Action Alternative (Alternative 2). Alternative 1 would be more effective in achieving fuel reduction goals over a longer time period for several reasons. First, Alternative 1 has substantially less hand thinning and more mechanical thinning acreage than Alternative 3. Hand thinning focuses on removal of smaller trees for practical reasons of tree weight and handling, which means that fewer ladder fuels would be removed, thus reducing the effectiveness of the treatments over time in achieving fuel reduction goals compared to mechanical treatments. The limited size of trees being removed in the hand thinning units also reduces the opportunity to create distinct openings and promote fire resistant intolerant species (e.g. pines). Secondly, I believe the amount of, and approach to, using prescribed fire under Alternative 1 is more realistic and feasible than the much greater acreage proposed for prescribed fire under Alternative 3 (27 percent more acreage proposed for prescribed fire under Alternative 3 compared to Alternative 1). Fire managers at the American River Ranger District expect implementation of prescribed fire to proceed at about 300 acres per

year, so the additional 1,600 acres of prescribed fire proposed under Alternative 3 would likely add 5 to 6 years to the implementation schedule, provided burning conditions were favorable and resources available to conduct burning. Further, use of prescribed fire is limited by weather, risk of escape, and risk of unintended consequences (for example, excess torching of larger trees, particularly in overstocked stands that have not been recently, or in some cases, ever, been thinned. Mechanical thinning coupled with follow-up prescribed fire treatments, as proposed in Alternative 1, would achieve the fuel reduction goals sooner, and treatment effectiveness would likely last longer, compared to the extensive use of prescribed fire alone proposed in Alternative 3.

Large, severe wildfires have burned in and around the French Meadows Project area over the past two decades (EA, pp. 3 and pp. 5 - 7). Based on the analysis in the EA, I believe Alternative 1 provides the best approach and mix of treatments to successfully reduce fuels and mitigate potential high severity fire effects in the event of a wildfire. This is of utmost importance given the large stand replacing wildland fires that have occurred in the area in recent years and the continuing risk of uncharacteristic severe wildfire.

- c. Alternative 1 is the most effective alternative at promoting healthy meadows and riparian areas to support important wildlife and plant habitats and water storage and filtration. Under Alternative 1, thinning within and adjacent to meadows would reduce encroaching conifers that would otherwise transition the meadow to a mixed-conifer forest. Alternative 1 would also promote the health and growth of aspen and cottonwood stands within the Project area. Alternative 3 is less effective at restoring meadows and cottonwood stands due to the size limitation on conifer removal on nearly half the acres proposed for meadow restoration and two-thirds of the acres of cottonwood stands. Leaving the larger trees under Alternative 3 would not effectively delay nor prevent the meadows and cottonwood stands from transitioning to a mixed-conifer forest over time; thus, Alternative 3 would not meet the stated need for promoting healthy meadows and riparian areas.
- d. Alternative 1 protects five individual blister rust-resistant sugar pine trees from loss due to wildfire and environmental stresses. Implementation of Alternative 1's radial thinning treatments around these valuable trees would increase the trees' growth and enhance their resiliency to insects and disease. With regard to surface fuels, raking of fuels away from the rust resistant sugar pine trees would further decrease the chances of tree mortality in the event of a wildfire. Thinning treatments would remove adjacent trees in order to reduce canopy to canopy contact thereby limiting access of seed predators to the rust resistant sugar pine trees and reducing risk of crown fire. Alternative 3 proposes to conduct hand thinning of small trees up to 6 inches dbh and surface fuels treatments around the blister rust resistant trees. While this would help reduce risk of loss due to wildfire, it would not serve to increase tree growth, enhance the trees' resiliency to disturbance, limit access for seed predators nor reduce the risk of crown fire.
- e. Alternative 1 provides an opportunity for researchers to collect and assess local empirical data on forest water balance that can inform regional (larger scale) hydrologic modeling. Alternative 1 authorizes installation of instrumentation and maintains the research opportunities afforded by this project. (Note that Alternative 3 provides this opportunity as well.)
- f. Alternative 1 provides safe and sustainable access for the administration, protection and utilization of National Forest System lands for resource management and public use. Alternative 1 improves the current road conditions and restores roads to their design standards slightly more

effectively than Alternative 3. Improvement of road drainage, most particularly near perennial and intermittent stream crossings, would likely decrease the amount of sediment deposited into streams. Under Alternative 1, gating Road 68-10 would limit public motorized access to the Dolly Creek Water Supply, the main source of water for the developed recreation facilities on the east and north shores of French Meadows Reservoir, and would help ensure that the campground water supply can be properly maintained and available to recreation visitors on a consistent basis. Gating Road 51 would help to manage the non-motorized wilderness values. Alternative 1 develops a loop trail around French Meadows Reservoir and a connector trail in the Granite Chief Wilderness that would provide non-motorized recreation opportunities not currently available.

- g. Alternative 1 provides for public safety along roads and trails and at recreation facilities by removing hazard trees along roads, designated trails and recreation facilities within the Project area.
2. Alternative 1 provides for protection of forest resources, including water quality, cultural resources, and riparian areas. It will protect and maintain habitat for Threatened, Endangered, and Sensitive plant and animal species, as well as Watch List and Management Indicator Species.
3. Alternative 1 implements applicable standards and guidelines in the *Tahoe National Forest Land and Resource Management Plan* (LRMP 1990) as amended by the *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD 2004). Alternative 1 also implements management requirements and best management practices described in the EA (pp. 25-36). Implementing these measures will ensure that potentially adverse environmental effects are mitigated.
4. Alternative 1 addresses the requirement in the National Environmental Policy Act (NEPA) to consider “the degree to which the action may adversely affect” a given resource. I have considered both the beneficial and adverse effects documented in the EA and the degree to which this Project’s actions contribute to cumulative effects on the various resources. I conclude that the design of the project including the management requirements and adherence to the SNFPA and LRMP, reduce the effects from the French Meadows Project to a level of non-significance for all affected resources, while still accomplishing the Project’s purpose and need.

ALTERNATIVES CONSIDERED

Three alternatives were considered. Alternative 1 - the *Proposed Action*, Alternative 2 - *No Action*, and Alternative 3 - the *California Spotted Owl Interim Recommendations* Alternative. These alternatives are described in detail in Chapter 2 of the EA, and analyses of their environmental effects are presented in Chapter 3 of the EA.

PUBLIC INVOLVEMENT

As described in the Introduction section, the French Meadows Project is the result of extensive collaboration between the Forest Service and partners, including The Nature Conservancy, Placer County Water Agency, Placer County, Sierra Nevada Conservancy, American River Conservancy, and UC Merced’s Sierra Nevada Research Institute. These partners provided support for developing and analyzing the Project, including contributing staff time and contributing funds for field survey and analysis necessary to prepare the environmental analyses in collaboration with the Forest Service. These stakeholders are committed to increasing the pace and scale of ecological restoration and in particular

addressing the needs of the French Meadows Project area across ownerships to improve ecological conditions and watershed health while reducing the potential for severe wildfire impacts.

A scoping letter was sent to over 49 individuals, organizations and Tribes. In addition, a scoping legal notice was published in Grass Valley's *The Union* newspaper on June 28, 2017, to inform the public about the proposed action. As a result of scoping, written comments were received from six individuals, organizations and Tribes. Scoping comments were used to identify issues and develop alternatives, including incremental development of the proposed action alternative.

A preliminary EA was provided to those individuals and organizations who responded during scoping or otherwise expressed interest in the Project. In addition, the Forest Service published a legal notice for a 30-day opportunity to comment period on the preliminary French Meadows Environmental Assessment in *The Union* newspaper on June 25, 2018. The 30-day comment period ended on July 25, 2018. In response to the Forest's request for comments, interested parties submitted seven total letters from seven different organized groups and one individual.

Concerns raised by commenters during the 30-day comment period are addressed in the Response to Comments attachment to this decision (Attachment A). Several commenters expressed support for the Project. Others raised concerns related to the intensity of mechanical thinning treatments in California spotted owl home range core areas (HRCAs), particularly in high quality owl habitat (California Wildlife Habitat Relationships (CWHR) 5D, 5M and 6), questioning how thinning treatments in these areas were consistent with the SNFPA ROD (2004). As a result of these comments, the proposed action was refined to make clear that mechanical thinning within CWHR 5D, 5M and 6 stands within HRCAs will focus on removing ladder fuels and will generally not remove dominant or co-dominant trees. The exception would be to allow removal of medium-sized trees within these stands consistent with the ecological principles set forth in North et al. (2009), e.g., selective thinning of fire-sensitive, shade-tolerant trees, like white fir, on mid and upper slopes. Based on this clarification, most existing 5D habitat within HRCAs will remain as 5D habitat post-treatment. Any exceptions, e.g., removal of medium-sized, shade-tolerant trees on mid and upper slopes to achieve ecological goals, outside of dense patches of larger trees, are expected to have a minimal effect on canopy cover over a small number of acres.

FINDING OF NO SIGNIFICANT IMPACT

I have determined that this action will not have a significant effect on the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is not needed. This determination is based on the effects analysis documented in the French Meadows Project EA, and considers the factors described below and listed in 40 CFR 1508.27. A more in depth discussion of the effects related to the FONSI factors can be found in Chapter 3 of the EA.

The significance of environmental impacts must be considered in terms of context and intensity. This means that the significance of an action must be analyzed in several contexts, such as society as a whole (human and national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. In the case of a site-specific action, significance usually depends upon the effects in the locale rather than in the world as a whole. Intensity refers to the severity or degree of impact (40 CFR 1508.27).

Context

For the analyzed alternatives, the context of the environmental effects is based on the environmental analysis in the French Meadows Project EA and documents incorporated by reference into the EA. All of the resource analyses identified the spatial and temporal bounds of their analysis, based upon the potential environmental impacts. These impacts are well known, as the proposed activities have all previously occurred on Tahoe National Forest. The potential environmental effects would be localized to the Project area, and would not be measurable at a regional or larger scale.

Intensity

The intensity of effects was considered in terms of the following:

1. Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that, on balance, the effect will be beneficial. Consideration of the intensity of environmental effects is not biased by beneficial effects of the action. Beneficial effects were not used to offset adverse effects. In the absence of beneficial effects, no adverse effects will be significant even when considered all by themselves. Management requirements designed to reduce the potential for adverse impacts are incorporated into the proposed action and alternatives, including standards and guidelines in the *Tahoe National Forest Land and Resource Management Plan* (1990) as amended, (1990), as amended by the SNFPA ROD (2004), Best Management Practices, and project-specific management requirements based on resource specialist knowledge and experience. These mitigations and management requirements would minimize or eliminate the potential for adverse impacts caused by the proposed Project. As documented in Chapter 3 of the EA, none of the potential adverse effects of the proposed action or alternatives would be significant, even when considered separately from the beneficial effects that occur in conjunction with those adverse effects. (Refer to EA, pp. 45 - 81.)

2. The degree to which the proposed action affects public health or safety. No significant effects on public health and safety will occur because the Project is designed to reduce risks to public health and safety by reducing fuel loads, improving existing roads and decommissioning unneeded roads, and removing hazard trees along roads and trails and at recreation facilities. In addition, the EA describes effects on public health from use of borate compounds and anticipated pollutant emissions, and concludes that adverse effects are expected to be minimal and not significant. (Refer to EA, p. 81.)

3. Unique characteristics of the geographic area such as the proximity to historical or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. No parklands, prime farmlands, research natural areas, special interest areas, wild and scenic rivers, or other ecologically critical areas are within or nearby the French Meadows Project Area; hence, these resources would not be affected by the Project. The project would not affect any historical or cultural resource eligible for the National Register of Historic Places, nor would it cause the loss or destruction of any significant cultural or historical resources. Design features, management requirements, and BMPs restrict disturbance activities within floodplains, meadows, and wetlands and the project is designed to enhance and restore meadows, aspen, and cottonwood stands. Construction of a one-mile non-motorized trail segment in the Granite Chief Wilderness would not result in direct or indirect impacts related to the wilderness area designation and is consistent with the Granite Chief Wilderness Management Plan (1992). Prescribed fire activities and decommissioning of a short road segment could have short-term minimal effects on the Duncan Canyon Inventoried Roadless Area; however, these activities are consistent with the intent of the 2001 Roadless Rule (USDA 2001) to protect inventoried roadless areas within the National Forest System (36 CFR 294.10). The activities proposed under

Alternative 1 would not adversely affect the State Game Refuge managed by the Department of Fish and Wildlife. (Refer to EA, pp. 81 - 83.)

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial. The effects of the French Meadows Project on the quality of the human environment are not likely to be highly controversial due to the limited size of the Project area, limited scope of the proposed action, and the effectiveness of the project design features and management requirements (detailed in Chapter 2 of the EA) in reducing impacts on forest resources. In addition, the Project actions are well-founded in science, current research, and other available information. The EA, pp. 83 - 86, and the Response to Comments attachment to this decision (Attachment A) addresses concerns raised by commenters regarding effects of the Project on the California spotted owl and effects of forest thinning on fire behavior.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks. The Forest Service has considerable experience with the types of activities included in the French Meadows Project. The environmental analyses show that effects are not uncertain, and that local expertise in the implementation of these types of projects minimizes the chance of unique or unknown risks. Proposed activities are routine in nature, employing standard practices and design criteria, and their risks and effects are generally well known. (Refer to EA, p. 86.)

6. The degree to which the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration. The action is not likely to establish a precedent for future actions with significant effects. Although conditions in the Project area are dynamic and will change over time, and may need future management actions, any future decisions will require site-specific analysis and public involvement to consider relevant scientific and site-specific information available at that time. (Refer to EA, p. 86.)

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Cumulative impacts associated with the French Meadows Project are not significant. The Biological Assessments and Biological Evaluations considered potential cumulative impacts of this proposal on habitat for plants, terrestrial wildlife, and aquatic species. In addition, cumulative watershed effects analysis was completed for all watersheds within the Project area to assess impacts associated with other past, present and reasonably foreseeable future activities. These documents and analyses, along with other resource analyses disclosed in the EA support the finding that this proposal will not cause significant cumulative effects on biological or physical resources, even when considered in relation to other actions. (Refer to EA, pp. 86 - 96.)

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historical resources. The French Meadows Project will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. This Project is consistent with the provisions of the Regional Programmatic Agreement (Regional PA 2018) with the Advisory Council on Historic Preservation and the California State Historic Preservation Office (SHPO), and therefore complies with Section 106 of the National Historic Preservation Act. (Refer to EA, pp. 96 - 97.)

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. The only federally-listed species with the potential to be affected by this Project is the Sierra Nevada yellow-legged frog (SNYLF). The EA analysis supports the finding that the French Meadows Project will not have

significant impacts on the SNYLF or its critical habitat (EA, p. 97). The Biological Assessment for Aquatic Wildlife documented, and the USFWS concurred, that the Project may affect, but is not likely to adversely affect the SNYLF (USDI 2018).

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The selected alternative complies with all applicable Federal, State, and local laws and requirements (Refer to EA, pp. 97 - 98.)

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

This decision is consistent with the Tahoe National Forest LRMP (1990) as amended by the SNFPA (2004). The project is in full compliance with the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, and the National Forest Management Act.

ADMINISTRATIVE REVIEW OPPORTUNITIES

This proposed decision was subject to objection pursuant to 36 CFR 218, Subparts A and B. One objection was received from American Forest Resource Council during the designated objection period of October 10, 2018 through November 26, 2018 and was subsequently withdrawn.

IMPLEMENTATION DATE

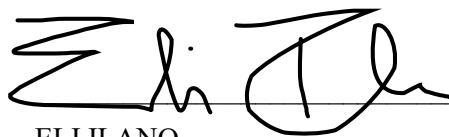
The Decision Notice may be issued on, but not before the fifth business day following the close of the objection filing period (36 CFR 218.12 (c)(2)).

The Project will be enrolled under the California Regional Water Quality Control Board, Central Valley Region Waste Discharge Requirements General Order (Order No. R5-2017-0061) after the decision is signed but prior to implementation. Project implementation would begin after receipt of a Notice of Applicability from the Water Quality Control Board.

CONTACT

For additional information concerning this decision please contact Karen Walden, District NEPA Planner, at the American River Ranger District Office, 22830 Foresthill Road, Foresthill, California, 95631; telephone: (530) 478-6254, extension 246.

Approved by:



ELI ILANO
Forest Supervisor
Responsible Official, Tahoe National Forest

12.10.18

Date

Attachment: Responses to Public Comments

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

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To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov. USDA is an equal opportunity provider, employer, and lender.

ATTACHMENT A: RESPONSES TO COMMENTS ON THE FRENCH MEADOWS PROJECT PRELIMINARY EA

The Forest Service published a Legal Notice for the French Meadows Environmental Assessment (EA) in Grass Valley's The Union newspaper on June 25, 2018. The 30-day comment period (36 CFR 218.22(a)) ended on July 25, 2018. In response to the Forest's request for comments, interested parties submitted seven total letters from seven different organized groups and one individual. For tracking purposes, the interdisciplinary team assigned a respondent number to each letter as it was received. Each individual comment within each letter was also given a unique number as displayed in Table 1.

Table 1. Respondent Comment Identification

<i>Letter ID</i>	<i>Comment Numbers</i>	<i>Respondent</i>
1	1	Associated California Loggers
2	2-16	American Forest Resource Council
3	32-35	Dick Artley
4	17-20	California Forestry Association
5	21-24	Center for Biological Diversity and John Muir Project
6	25-27	Sierra Forest Legacy
7	28-31	Sierra Pacific Industries

- Comment:** Comments in Letter #1 are supportive of comments in Letter # 2.

Response: Noted.
- Comment:** We are glad to see the American River Ranger District is proposing forest health projects that will reduce hazardous fuels and tree stocking density and will likely provide useful timber products to our membership. Our members depend on a predictable and economical supply of timber products from Forest Service land to run their businesses and to provide useful wood products to the American public, and we appreciate the Tahoe National Forest for contributing to this supply.

Response: Thank you for the comment supporting forest health projects.
- Comment:** Alternative 2 (No Action) would not address declining forest health conditions or the risk of stand replacing wildfire. Conditions would continue to deteriorate, and the risk would increase. There would be no economic benefit associated with increased employment and local community stability.

Response: This comment concurs with the effects analysis documented in the EA.
- Comment:** Alternative 3 (Modified Proposed Action) would only improve forest health and fuels conditions on 699 acres using mechanical thinning. There would be fewer economic benefits associated with increased employment and local community stability.

Response: This comment generally concurs with the effects analysis documented in the EA, particularly with respect to forest health and economic benefit.
- Comment:** It makes sense to effectively treat as many acres as possible when planning projects in the area. It will likely be at least 20 years before the next project is planned in the area (unless it burns). Protecting owl habitat by deferring treatment in overstocked forests that are at high risk for tree

mortality and/or stand replacing wildfire is not an effective way to maintain sustainable habitat, considering the levels of tree mortality and acres burned in California over the past decade.

Response: Thank you for your comment. Alternative 1 proposes treatments on over twelve thousand acres to meet the objectives identified in the Purpose and Need for the project while maintaining important habitat for spotted owls and other species.

6. **Comment:** We support Alternative 1 but have concerns about proposed thinning intensity outside of defense zones and in spotted owl HRCAs. The limiting factors in reducing excessive forest stocking density in California spotted owl habitat are the standard and guideline requirements to maintain 40-50% canopy and trees over 30 inches dbh. These requirements restrict the ability to “Promote long-term forest health, resilience, and sustainability while maintaining important habitat for wildlife, including the California spotted owl”.

Response: The Environmental Assessment and supporting documents demonstrate that the proposed action will meet the project’s purpose and need while complying with the 2004 Sierra Nevada Forest Plan Amendment Record of Decision. For example, the silviculture report shows that proposed thinning will promote forest health and resilience, and the fire modeling summarized in the fuels report shows that the proposed action will significantly reduce the risk of high-severity wildfire.

7. **Comment:** Lowering residual stocking levels to 100-120 square feet in WUI defense zones would help develop healthy forest stands that would be resilient to environmental stresses and disturbances and may create conditions more conducive to the establishment and growth of shade intolerant species. Thinning would be effective for at least 20 years. Lowering residual stocking levels in owl habitat areas to sustain them into the future and protect them from stand replacing wildfires is also important.

Response: Page 14 of the EA specifies that 100 to 140 square feet of basal area would be retained in the WUI Defense Zone, which is within range of the stocking levels recommended by the commenter.

8. **Comment:** It is unlikely that most of the residual basal area stocking levels listed in the Vegetation Management report for stands in HRCAs outside of defense zones would be forest health effective at basal area year 0 (directly after thinning) much less twenty years into the future at stocking levels shown in Table 2. Risks for future tree mortality and stand replacing wildfires would not be significantly reduced.

Response: As stated on page 38 of the French Meadows Vegetation Management Report (Galliano, 2018) the treatments reduce the average stand density index to 307, significantly below the threshold of self-thinning for white-fir (SDI 417), and would therefore reduce future tree mortality. It should be noted that most of the project area is currently dominated by true firs as illustrated by figure 1 of the Vegetation Report. This means that higher stocking levels can be sustained on the project site than in lower elevation pine dominated sites. By implementing the principles identified in North et al. (2009, 2012) and described on pages 13 and 14 of the EA, in patches of the project which are dominated by more shade intolerant species, stocking in such areas can be reduced relative to the stand average to allow for persistence of shade intolerant species on the site. Finally, as noted above, the fire modeling and analysis show that the proposed action would substantially reduce the risk of stand-replacing wildfire.

9. **Comment:** The initial scoping document (page 3) issued on June 26, 2017 states: “Stands would be generally thinned from below to a stand density index (SDI) below 230, with residual basal areas ranging from 140 to 180 square feet of basal area per acre outside of California Spotted Owl Home Range Core Areas (HRCAs) and 180 to 240 square feet per acre within HRCAs.” The Vegetation Management Report issued in May (page 10) states that “Within the mechanical thinning treatment almost all of the areas fall into the mature CWHR type. Implementing this canopy cover target results in post treatment stands with basal areas ranging from 175-225 square feet per acre outside the HRCA

and 185 to 285 square feet per acre inside the HRCA”. The revised proposed action would reduce post treatment residual basal area to 100-120 square feet in defense zones (EA page 12). However, the basal area ranges from the Vegetation Management Report shown above for areas outside of the HRCA are significantly higher than the range identified in the scoping document on June 26, 2017.

Response: The estimates given in the Vegetation Management Report quantify the likely basal area resulting from implementation of management requirements found in the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51, specifically the canopy cover requirements. A key element of these estimates is the canopy cover FVS calculates for a given set of stand parameters. The methodology for these calculations is described in RMRS-GTR-24. The crown cover figures rely on estimations of crown area and canopy overlap. These are factors not directly measured in stand exam plots and are therefore subject to variation from actual conditions. Due to this variation, during implementation it is possible that some areas would result in different residual basal area than what is estimated in the Vegetation Management Report. Such areas could approach the values given on page 14 of the EA in portions of the project.

Citation: Crookston, Nicholas L.; Stage, Albert R. 1999. *Percent canopy cover and stand structure statistics from the Forest Vegetation Simulator*. Gen. Tech. Rep. RMRS-GTR-24. Ogden, UT: U. S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 11 p.

10. **Comment:** Mixed conifer stands contain a component of shade intolerant species including ponderosa and Jeffrey pine. Thinning to high white fir stocking densities restricts establishment and growth of these species.

Response: As stated on page 3 of the Vegetation Management Report, white fir maximum Stand Density Index (SDI) was not the only metric used to evaluate treatment effectiveness with regard to stand density. The maximum SDI for ponderosa pine was also considered with regard to maintenance of shade intolerant species. Additionally, as stated on page 38 of the Vegetation Management Report, the flexibility exists to thin areas surrounding shade intolerant species more intensely, as long as canopy cover requirements are met when averaged over the unit.

11. **Comment:** Some research and historical data suggests that lower residual stocking densities as low as 150 square feet should be considered in white fir mixed conifer stands to more effectively improve forest health and fuels conditions and create conditions conducive to the establishment and growth of the shade intolerant species. Mechanical thinning in densely spaced stands where the residual basal area is above 200 square feet are also susceptible to residual tree damage (skin-ups) from equipment.

Response: In order to promote establishment of shade intolerant species, mitigate stand damage potential, and implement recommendations of General Technical Report (GTR) 220, thinning would occur in a non-uniform pattern where there are dense patches intermixed with more intensely thinned areas, along with open patches, or “gaps”, as stated on pages 10-11 in the Vegetation Management Report and pages 13 and 14 of the EA. This would result in mechanical thinning being focused in clumps which are thinned more intensely, and therefore less susceptible to stand damage. Variable density thinning would also allow for areas surrounding shade intolerant species to be thinned to levels appropriate for the species while still maintaining forest plan standards over the entire unit.

12. **Comment:** There are opportunities to chip and remove biomass material (tops, limbs, small trees) for power generation using whole tree yarding in the Defense Zone. In some cases, terms can’t be met on current power purchase agreements. The fuel is not there to purchase. The Forest Service needs to accelerate planning and take advantage of opportunities in the biomass market while they still exist.

Response: Thank you for the recommendation. Implementation of this project would be designed to take advantage of available biomass opportunities.

- 13. Comment:** AFRC supports silvicultural prescriptions based on one effective thinning entry every 20 years. This would reduce the number of entries over time and provide added assurance against future drought. Heavier thinning would meet forest health objectives and protect habitat from stand replacing wildfire and provide sufficient value (sawtimber) for economically efficient projects.

Response: Thank you for your comment. Please refer to response to comment 16.

- 14. Comment:** Fully meet the project objective of “Promote long-term forest health, resilience, and sustainability while maintaining important habitat for wildlife, including the California spotted owl” inside and outside of HRCAs. Design silvicultural prescriptions to develop and improve future sustainable habitat.

Response: Thank you for your comment. The intent of the action alternatives is to meet this objective.

- 15. Comment:** Utilize the flexibility of averaging canopy closure and residual basal area per acre across each unit to improve treatment effectiveness and timber sale economics. Some areas within a unit would retain above the average with an equivalent area below the average. This would increase variability and allow for at least portions of the stand to be thinned more effectively for a longer period of time. Do not leave entire stands at the stocking levels listed in table 2.

Response: As stated on pages 10-11 and 38 of the Vegetation Management Report, and pages 13 and 14 of the EA, it is the intent within mechanical treatment units to apply variable density thinning using the principles outlined in North et al. (2009, 2012) and average canopy closure across the unit to realize the benefits listed by the commenter.

- 16. Comment:** Retain lower tree stocking in portions of treatment units with canopy retention by 1) averaging canopy retention and basal area stocking across the unit, and 2) thinning to a lower stocking level in shade intolerant species aggregations. (a) Thin to a residual basal area of 100-120 square feet in Defense Zones. (b) Outside of California Spotted Owl HRCAs: Thin from 140 to 180 square feet of basal area per acre as identified in the scoping notice. Distinct pine aggregations should be thinned down to at least 120 square feet.

Target stand densities following thinning should generally range down to at least 35 percent of maximum stand density index (SDI) so that stand density would remain at or below 60 percent of maximum SDI for at least 20 years, to be effective and to minimize the need for re-entry. (c) Inside of California Spotted Owl HRCAs: Adjust thinning intensity based on canopy averaging across the unit. Thin down to at least 150 square feet of basal area whenever possible while maintaining the stand average. Distinct pine aggregations should be thinned down to at least 120 square feet.

Response: As stated on pages 10-11 and 38 of the Vegetation Management Report, it is the intent of the project to average canopy closure across each unit to realize the benefits listed as points 1 and 2 by the commenter. With regard to point (a), Page 14 of the EA specifies that 100 to 140 square feet of basal area would be retained in the WUI defense zone, which is within range of the stocking levels recommended by the commenter. With regard to point (b), thinning would occur to intensity levels allowed by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51. In some cases the standard listed in the scoping notice would be met depending on particular stand conditions. The flexibility of having variable density within a unit would allow for lower densities to be realized in pine aggregations, as suggested by the commenter. With regard to SDI, as stated on page 38 of the silviculture report, average SDI 20 years out from implementation is 373 which is less than 60 percent the maximum SDI for white fir. With regard to point (c) the basal area standards proposed by the commenter would be met where possible while complying with the 2004 Sierra Nevada Forest Plan Amendment Record of Decision.

17. **Comment:** It is of utmost urgency to move the forests back to a resilient condition, which can only be done by rapidly and aggressively reducing the tree density. The stand density index for the Sierra Nevada's is clearly showing that the pine, mixed conifer, and true fir vegetative types should be reduced to 60, 80-120, and 140 square feet of basal area. None of your action alternatives even come close.

To move stands within the project area back near a resilient condition means you have to take at least half of the vegetation off the landscape. For the Tahoe, ½ of the vegetation is around 10 mbf/acre. You are only proposing to remove 4 mbf/acre in the proposed action. This is a strong indicator that you are not even close to bringing these stands back into a resilient condition.

Response: Treatments were designed to be consistent with the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51. The canopy cover requirements of the ROD are not consistent with the basal area reductions suggested by the commenter. The justification for not seeking a Forest Plan amendment can be found in response to comment 19.

18. **Comment:** Region 5 has had the California Spotted Owl publication by Malcolm North, et al. since September 2017. That publication (https://www.fs.fed.us/psw/publications/north/psw_2017_north004.pdf), in part, indicates that chosen nest tree habitat is areas of 10 acres or less (not 300 acre PACs). Further, the owl prefers higher canopy cover well up in the canopy of the nest habitat and likes there to be no ladder fuels. Outside of the nest area, the owl doesn't seem to be affected by openings, etc. Hence, regular thinning activities outside of the 10 acre nest site plus removal of ladder fuels within the 10 acre nest site are indicated as positive for the owl. This, of course, is drastically new information on how to manage for the California Spotted Owl. However, Region 5 has had this information for 9 months. It's past time to start implementing the new research findings.

Response: The commenter cites North et al. (2017) to conclude that "regular thinning activities" outside of the 10-acre nest site, as well as removal of ladder fuels within the 10-acre nest site, would be beneficial to California spotted owls and to suggest that the intensity of proposed thinning should be significantly increased. The referenced publication—*Cover of trees best predicts California spotted owl habitat* (North et al. 2017)—is cited and discussed at length in numerous places in the Biological Evaluation (BE) and the EA.

Contrary to the commenter's assertion, the study does not suggest that all thinning activities outside of the 10-acre nest site are beneficial to owls. Rather, the study emphasizes that owls appear to select for cover of tall trees (and to select against cover of the smallest trees) within the nest site and at the 300-acre protected activity center (PAC) scale as compared to the territory and landscape scales, and that while tall tree cover is relatively rare on National Forest System lands, what is available is consistently found in both nest and PAC areas. Berigan et al. (2012) confirms that the 300-acre PAC is the appropriate management area for California spotted owl nesting areas given the high correlation of owl distribution within PACs, as well as long periods of usage of these areas (up to 24 years).

Removal of ladder fuels, as stated in the proposed action, may enhance habitat for California spotted owls both in the short-term by improving foraging opportunities and in the long-term by reducing inter-tree competition and enhancing the growth and survival of large trees and development of high canopy, which are demonstrated by North et al. (2017) to be key components of California spotted owl habitat.

The proposed mechanical thinning activities are consistent with *Sierra Nevada Forest Plan Amendment Record of Decision* standards and guidelines and incorporate principles from North et al. (2009, 2012, and 2017), as described in Chapter 2 of the EA.

19. **Comment:** CFA urges that the Ranger District incorporate a site-specific Forest Plan amendment to incorporate the findings of the North et al. research, respond to the Stand Density Index data, and thereby allow adjustment of the proposed action to reduce the vegetation to a mixed-conifer level of 80-120 square feet of basal area.

Response: *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD 2004) standards and guidelines (pp. 50 through 51) apply to mechanical thinning treatments in mature forest habitat. For areas outside the WUI defense zone, thinning treatments must retain at least 40 percent of a treatment unit's existing basal area, generally comprised of the largest trees, and 40 percent canopy cover. In California spotted owl home range core areas (HRCAs), management intent is to retain at least 50 percent canopy cover (with an exception to retain 40 percent canopy cover in limited situations).

20. **Comment:** In conclusion, in a Forestwide context, the Tahoe National Forest on its productive forest land available for active management grows 600 million board feet (mmbf) per acre per year. The average annual harvest since 1994 has been 35.2 mmbf. The scheduled sold volume for 2018 is 16.5 mmbf. The ever-increasing density of the Tahoe National Forest can only lead to dramatic adjustments in tree density by the natural disturbance agents (wildfire, insect, and disease) unless the Forest dramatically increases pace of fuels reduction and reduction in tree density.

Response: The Tahoe National Forest plans to sell approximately 28 million board feet this year and is committed to continuing to increase the pace and scale of ecological restoration, including enhancing forest resilience through treatments (thinning and prescribed fire) and wildfire, consistent with the Pacific Southwest Region's leadership intent. The Forest has been finding new and innovative ways to accomplish this, including working more closely with partners and industry to identify needs and to secure the necessary resources for planning and implementing vegetation and fuels management projects across the Forest. The French Meadows Project is an example of this, with landowners and other stakeholders working together with the Forest Service to promote ecologically-based, landscape-scale management and develop an "all-lands" approach to enhance the health and resiliency of the Middle Fork American River headwaters (EA, pg. 1). The French Meadows Project would contribute to reducing impacts associated with the disturbance agents the commenter describes. The Forest anticipates this trend of stakeholder involvement to increase the pace and scale of ecological restoration in the coming years.

21. **Comment:** In CSO HRCAs, as stated at page 46 of the 2004 Framework's Record of Decision, the Forest Service is to "arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible." Table 20 of the BE shows impacts to this habitat in HRCAs and the EA notes that "[t]he primary effect of the vegetation treatments on suitable [CSO] habitat would be a reduction in 23 percent of the total of 2,463 acres of habitat categorized as CWHR type 5D," and that "Alternative 1 would result in a reduction in 567 acres of habitat supporting CWHR type 5D (a 23 percent reduction of acreage of this CWHR type the analysis area)." We could not find anything in the EA or supporting documents that explains why it is not possible to avoid mechanical treatments in the highest quality CSO habitat. We ask that such areas be avoided.

Response: The *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD, pg. 46) includes guidance for managing California spotted owl home range core areas (HRCAs). One management intent for HRCAs is to use a landscape approach for locating treatment areas to modify fire behavior and to retain suitable habitat, "recognizing that habitat within treated areas may be modified to meet fuels objectives." Another management intent for HRCAs is to arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) in HRCAs "wherever possible." In addition, the SNFPA ROD provides management

objectives for HRCAs to “[e]stablish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior and to design treatments that are economically efficient and promote forest health, consistent with habitat objectives.”

The French Meadows Project was developed to be consistent with the SNFPA ROD’s management intent and objectives for HRCAs: treatment prescriptions are designed to modify wildfire behavior, retain high quality spotted owl habitat, and focus on removing surface and ladder fuels while being economically feasible to implement. Specifically, the spatial pattern of the mechanical thinning units is designed to effectively interrupt potential wildfire spread and reduce existing high stand densities to allow the safe use of prescribed fire following the mechanical thinning treatments. To accomplish these objectives, mechanical thinning treatments are needed in a portion of the Project area’s HRCAs. (Refer to the discussion and Figure 1 below.)

In response to this and other comments, we have reassessed the project’s impacts on spotted owl habitat within HRCAs and have clarified the description of the proposed action and the project effects on highest quality spotted owl habitat in HRCAs, as follows:

1. Prescribed fire, mastication, mechanical thinning of small trees, and hand thinning within the highest quality owl habitat (CWHR 6, 5D, 5M) are unlikely to reduce canopy cover of dominant and co-dominant trees and therefore are unlikely to change existing CWHR class or to degrade owl habitat. To the contrary, North et al. (2017) suggests that reducing canopy cover of smaller, understory trees, as may occur with prescribed fire and mastication, is likely to benefit spotted owls.

2. Of the 5,456 acres of highest quality owl habitat (CWHR 6, 5D, 5M) currently within HRCAs (Table 14 in the BE) in the French Meadows Project analysis area, only 795 acres - approximately 15 percent - would be mechanically thinned under Alternative 1 (Table 19 in the BE). The EA’s description of the proposed action has been revised to make clear that mechanical thinning in CWHR 6, 5D, and 5M stands within HRCAs would focus on removing ladder fuels and would generally not remove dominant or co-dominant trees. Medium-sized trees could be removed within these stands consistent with the ecological principles set forth in North et al. (2009), for example, selectively thinning fire-sensitive, shade tolerant trees like white fir on mid and upper slopes. It is not expected that selectively thinning some medium-sized trees would change the CWHR density class (e.g. D to M) because the overstory canopy would remain largely intact. The EA’s description of the proposed action states:

“Within HRCAs, thinning would focus more intensively on areas with a preponderance of trees less than 20 inches in diameter, while retaining more clusters of larger trees and dense patches containing larger trees in concert with the management intent for HRCAs (SNFPA ROD, p. 46). Treatment in these denser patches would be avoided if possible while still meeting the fuel objectives for the unit. In cases where fuel treatments are needed within these dense patches to meet the fuel objectives for the unit, treatments would focus on removing surface and ladder fuels.”

3. Within HRCAs, mechanical thinning treatments would retain the largest trees to maintain a minimum of 50 percent canopy averaged within the treatment unit (SNFPA ROD Standard and Guideline #7, pp. 50 - 51).

4. The spotted owl habitat effects analysis presented in the EA shows that existing CWHR 5D habitat within HRCAs would remain as 5D habitat post-thinning because the canopy cover of large overstory trees would be unaffected by the thinning treatments. Any reductions in canopy from removal of medium-sized, shade tolerant trees on mid and upper slopes to achieve ecological goals would be expected to be minor. Refer to Figure 1 below which illustrates the CWHR 5D patches within the analysis area and those occurring within mechanical thinning treatment areas (excluding *Mechanical Thinning Plantations and Small Trees* treatments) under Alternative 1.

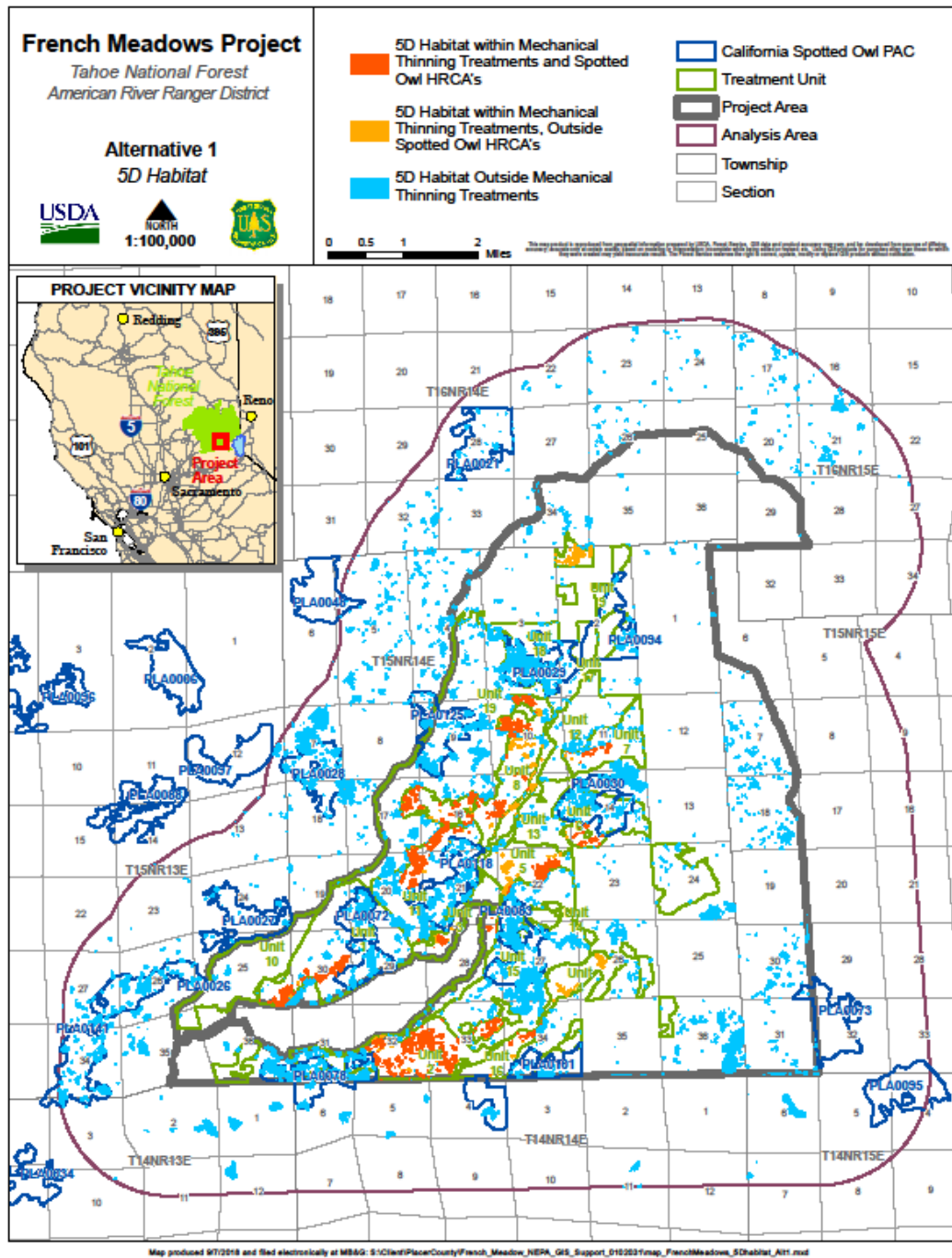


Figure 1. CWHR 5D patches within analysis area and Alternative 1 mechanical thinning treatment areas

22. **Comment:** Logging large acreages of HRCAs, especially the highest quality habitat, under the Proposed Action (refer to e.g. BE at Table 19 and 20), and the subsequent consequent loss of canopy cover and/or forest complexity, will likely lead to harm to occupancy, reproduction, and/or survival, and that contributes further to an already ongoing decline. We therefore ask that no mechanical treatment occur in the HRCAs or the highest quality CSO habitat in order to protect it for the owls, especially in light of the documented significant population decline and the available literature

documenting that the loss of canopy cover and forest complexity in high quality habitat is detrimental to owls (see, e.g., Seamans and Gutiérrez 2007, Gallagher 2010, Tempel et al. 2014, Stephens et al. 2014).

Response: Please refer to response to comment 21, which clarifies that mechanical thinning treatments in the highest quality owl habitat (CWHR types 5M, 5D, and 6) within HRCAs will not significantly reduce canopy cover or affect the existing CWHR type classification. In addition:

Current literature and the effects of habitat alteration on California spotted owls: The Biological Evaluation for Terrestrial Wildlife Species (BE) acknowledges that California spotted owls are old forest associated species that require heterogeneous forest stands with large live trees and snags and moderate-to-dense canopy cover, dense canopy cover in nesting sites, and the presence of large downed woody debris and thick forest litter. The BE also acknowledges that alteration of these habitat features can adversely affect owls (Seamans and Gutierrez 2007, Stephens et al. 2014, Tempel et al. 2014). Treatment design features are included in the proposed action to reduce short-term, negative impacts on California spotted owls and their habitat, and to reduce long-term, potential impacts of high severity fire to the French Meadows Project area. In particular, no mechanical thinning treatments are proposed in the 300-acre PACs that surround each nest or roosting site, and no ground based mechanical thinning of natural stands (EA pp. 13-14) is proposed in approximately 85 percent of the highest-quality owl habitat (CWHR 5, 5D, 5M) within HRCAs in the analysis area (refer to Tables 14 and 19 in the BE). The relatively small amount of mechanical thinning proposed in HRCAs is designed to preserve key owl habitat components, including the largest trees and their connected canopies, snags, and logs, and would maintain at least 50 percent canopy cover, as further explained in the response to comment 21. These design features are consistent with Forest Plan standards and guidelines for mechanical thinning treatments in mature forest habitat (SNFPA ROD 2004 S&G #7, pp. 50 to 51).

In addition, the Proposed Action incorporates principles outlined in “Ecosystem Management Strategy for Sierran Mixed-Conifer Forests” and “Managing Sierra Nevada Forests” by North et al. (2009 and 2012, respectively), which emphasize the importance of heterogeneous forest structure, use of prescribed fire where feasible, and retention of dense patches of large trees and snags (including those with structures that have high wildlife use value).

Regarding impacts to owls, the commenter cites several recent studies (Tempel et al. 2014, Gallagher 2010, Stephens et al. 2014, and Seamans and Gutiérrez 2007) that were also cited and considered in the BE. These papers identify the potential negative effects to California spotted owls of fuels treatments. However, the fuels treatments analyzed in Tempel et al. (2014), Gallagher (2010), and Stephens et al. (2014) are more intensive than those proposed in the French Meadows Project with respect to canopy cover reduction, large tree removal, and/or creation of group selection openings. The Tempel et al. (2014) study examined the effects of forest treatments that included group selection logging, cutting trees up to 30 inches in diameter and reduction of canopy cover to 40 percent inside owl territories. Tempel et al. (2014) concluded that “medium-intensity harvest” can have a negative impact on owl reproduction but cautioned: “we found only weak support for this effect based on the degree to which the 95 percent [confidence interval] . . . overlapped zero.” They did not detect any significant effect on owl survival or occupancy. The treatments shown to negatively impact owls in Gallagher (2010) and Stephens et al. (2014) were not based on the ecosystem principles of GTR-220 and GTR-237 (North et al. 2009, 2012).

Moreover, Tempel et al. (2014 and 2016) acknowledge that any short-term negative effects on owl habitat caused by timber harvest and canopy reductions should be weighed against the long-term benefit to owl habitat of reducing risk of high-severity fire. The Tempel study authors acknowledge that other research has indicated that the benefits of reducing risk of fire may outweigh the impacts of

medium intensity timber harvest. The authors also caution that the declines in the owl population they observed could reflect multiple unrelated factors, including historic timber harvest (which was supported recently by Jones et al. 2017), predation, prey availability, and disease.

Importantly, in a more recent study, Tempel et al. (2016) suggested that fuels and restoration treatments could be used to reduce canopy cover below 70 percent in some high-canopy-cover forest within spotted owl territories without having a significant impact on expected occupancy and that increased forest structural heterogeneity may positively influence demographic rates of spotted owls. They found that medium canopy cover (40 to 69 percent) often provided similar, and sometimes greater, benefits to the spotted owl compared to high canopy cover (greater than 70 percent).

Finally, North et al. (2017) recently showed that the cover of tall trees may be a better predictor of owl habitat than overall canopy cover and that owls appear to avoid areas of high canopy cover from small trees. As stated in North et al. (2017): “Management strategies designed to preserve and facilitate the growth of tall trees while reducing the cover and density of understory trees may improve forest resilience to drought and wildfire while also maintaining or promoting the characteristics of owl habitat.” The proposed action incorporates these findings by focusing thinning within the highest quality owl habitat within HRCAs on ladder fuels and understory trees while generally maintaining the canopy cover provided by the largest trees.

Mechanical treatments within HRCAs: The BE accompanying the preliminary Environmental Assessment incorporated a modeling error that overstated the potential impacts of the proposed action on high quality owl habitat within HRCAs. The BE incorrectly assumed that all treatments (except for prescribed fire) within CWHR 5D habitat would reduce canopy cover to 50 percent and therefore that all 5D stands would be converted to 5M stands post-treatment. As explained in the response to comment 21, treatments other than mechanical thinning (e.g., mastication, hand thinning, small tree mechanical thinning, prescribed fire) are not expected to reduce the canopy cover of dominant and co-dominant trees; therefore, all 5D stands receiving treatments other than mechanical thinning would remain as 5D stands, and all 5M stands would remain 5M. With respect to mechanical thinning, the proposed action has been modified to clarify that mechanical thinning within CWHR 5D, 5M, and 6 stands within HRCAs would generally focus on removing ladder fuels and small to medium-sized shade tolerant trees in mid and upper slopes. As a result, the California spotted owl effects analysis presented in the EA and BE projects that most existing 5D habitat within HRCAs would remain as 5D habitat post-thinning because the overstory canopy cover would be largely unaffected.

- 23. Comment:** The harms from mechanical thinning are certain (the logging will occur in the owl habitat if the Project goes forward whereas high severity fire may or may not occur in the owl habitat if the Project does not go forward), and these harms outweigh any potential impacts from future wildfire. “Spotted owls were usually not significantly affected by mixed-severity fire, as 83% of all studies and 60% of all effects found no significant impact of fire on mean owl parameters. Contrary to current perceptions and recovery efforts for the spotted owl, mixed-severity fire does not appear to be a serious threat to owl populations; rather, wildfire has arguably more benefits than costs for spotted owls.” Lee 2018 (attached).

Response: The proposed action was designed to address multiple needs, including promoting long-term forest health and resilience, protecting nearby infrastructure and water quality from high-severity wildfire, and promoting forest heterogeneity. Contrary to the commenter’s suggestion, it is not simply a matter of balancing spotted owl habitat with the risk of wildfire.

With respect to the Project’s potential impact on the spotted owl, the Project would result in minimal short-term impacts on the highest quality spotted owl habitat within HRCAs, as described in the responses to comments 21 and 22. Moreover, fire models used to plan the French Meadows Project show that, without treatment, when this landscape burns, high severity crown fire is likely to occur on

about 59 percent of the Project area, and surface fire would occur on about 40 percent of the Project area. The French Meadows Project is explicitly designed to reduce the risk of crown fire, allowing for more mixed-severity fire, dominated by low and moderate severity fire on most of the Project area. The Project also includes use of prescribed fire on most of the treated landscape (Smith 2018). (Refer to the section titled “Achievement of Purpose and Need” in Chapter 2 of the EA.).

The commenter cites a new study by Lee (2018) which purports to provide a meta-analysis of all available scientific literature on the effects of wildfire on California spotted owl populations. Consistent with the stated conclusions of Lee (2018), the BE describes that California spotted owls evolved with fire and have indeed been shown to be resilient to and/or to benefit from mixed-severity fire (USFS 2018, Eyes et al. 2017, Rockweit 2017, Stephens et al. 2016). However, researchers also acknowledge an increase in the frequency, scope, and intensity of wildfire in the Sierra Nevada that represents a divergence from the mixed-severity fire regime under which California spotted owls evolved (Jones et al. 2016, Stephens et al. 2016, Lydersen et al. 2017, Harris and Taylor 2017, Gutierrez 2017). As described in the Biological Evaluation for this project, the recent analysis by Stephens et al. (2016) determined that, if trends based on total area burned in the recent past (1970 to 2014) continue, a majority of current California spotted owl nesting habitat may be substantially altered by high-severity fire (i.e., greater than or equal to 50 percent basal area mortality) in the next century.

Section A (Existing Environment) of the BE provides an overview of the results of recent studies on the response of owls to high-severity fire. In general, short-term responses of owls to high-intensity fire varies between studies and “no information exists on long-term survival, reproduction, and fitness of owls within burned territories” (Gutierrez 2017). Lee (2018) shows a high degree of variation in the effects of fire, some positive and some negative, and thus there is no strong indication that under all circumstances and contexts fire is universally positive or neutral. Moreover, all but two of the 21 studies used in the Lee (2018) analysis (Table 2 in Lee [2018]) were based on fires with less than 50 percent area burned at high severity. The two studies with over 50 percent high severity burned area showed significant negative impacts on owls. This supports the objectives and current design for the French Meadows Project to treat stands to reduce the likelihood of landscape level high severity fire effects in the event of a wildfire.

Finally, it is important to emphasize that the value of the French Meadows Project is not dependent on the assumption that high-severity wildfire will negatively affect the spotted owl. Rather, as stated above, the project has a broad purpose and need, including promoting forest health, growing large trees and resilient stands that will maintain and improve habitat quality over time, protecting infrastructure and water quality, and other important goals that would be advanced by implementing the Project.

24. **Comment:** Given that under the proposed action mechanical treatments in areas containing larger trees, specifically areas composed of CWHR 5M, 5D, or 6 would be avoided when possible or treatment in these patches would focus on removing trees less than 16 inches dbh, it is unclear to us how mechanical treatments implemented under the proposed action would result in the loss of 567 acres of CWHR 5D habitat. In other words, it is unclear to us why there would be a loss of 567 acres of this habitat type, given that treatments in such habitat would be avoided when possible or focus on reducing surface and ladder fuels. What specifically is being done to minimize or avoid effects this highest quality spotted owl habitat?

Response: Please refer to responses to comments 21 and 22, which clarify the analysis of impacts to CWHR 5D habitat within HRCAs based in part on clarifying that mechanical thinning within such habitat under the proposed action would focus on removing ladder fuels, selectively thinning medium-sized shade tolerant trees on mid and upper slopes, and retaining the largest trees and their connected canopies, snags, logs, and at least 50 percent canopy cover.

- 25. Comment:** The proposed action includes reducing the amount CWHR 5D habitat by 567 acres. However, the Vegetation Management Report (Table 2, pp. 17-22) shows that the existing Quadratic Mean Diameter is less than 24 inches in all of the treatment units. To classify as CWHR 5D, QMD must be greater than 24 inches. It is not clear to us in what units CWHR 5D occurs and would be reduced to 5M and to what degree treatments would reduce canopy cover of the 5D habitat. This could be a scale issue or a data source issue (e.g., plot vs. remote sensing), but we would like to know how the reduction of CWHR 5D was calculated. We would also be interested to know by how much canopy cover would be reduced in treated 5D units and where these units are in proximity to spotted owl activity centers.

Response: The apparent discrepancy pointed out by the commenter with respect to the size of trees within 5D habitat reflects the use of two different data sources to estimate QMD. For purposes of determining size class within the CWHR system, QMD of the overstory is used and understory/suppressed trees are not considered (Parisi, Motroni, Robards, 2007). Consistent with this approach, for the French Meadows wildlife analysis documented in the Biological Evaluation and EA, LIDAR data were used to determine the existing QMD based on the stand overstory and to map the existing CWHR classes on the landscape. By comparison, the Vegetation Management Report (Galliano, 2018) includes understory/suppressed trees as well as overstory to calculate average stand QMD and canopy cover over time, based on stand exam plot data. This difference in approach was required because the more accurate LIDAR data (used to estimate current stand conditions) cannot be used in the Forest Vegetation Simulator (FVS) to model changes over time from treatments. Therefore, the CWHR 5D acreage estimates in the BE and EA are accurate.

Regarding the potential acreage that may change from 5D to 5M as a result of treatment, please refer to response to comments 21, 22 and 24. In addition, please refer to Figure 1 above in response to comment 21 which identifies the location of 5D habitat within the project area, spotted owl PACs, and the patches within mechanical thinning treatment areas.

Citation : Parisi , Monica D; Motroni, Robert S; Robards, Timothy A (2007) . *Clarification of the Measurement of California Wildlife Habitat Relationships (CWHR) System Size Classes 5 and 6 for Tree Habitats California Wildlife Habitat Relationships Program Biogeographic Data Branch, Resource Management and Policy Division California Department of Fish and Game Sacramento, California June, 2007.*

- 26. Comment:** The vegetation report makes claims that the stands should be thinned more intensively, but these are not supported by the data presented. The Vegetation Management Report states (p. 39): "From a SDI perspective it would be favorable to thin some stands more intensely than what is proposed in Alternative 1, but the ability to do so is limited by the need to meet Forest Plan standards and guidelines for mechanical thinning treatments (Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51)." The Vegetation Management Report also states (p. 2): "In the analysis, 55% of maximum SDI was considered to be the lower limit for self-thinning." and "In Natural Stands, a maximum SDI of 759 was applied to assess effectiveness of reducing tree competition and limiting tree mortality due to white fir being the dominant tree species present in the stands." 55% of an SDI max of 759 is 417. Based on Table 2 of the Vegetation Management Report, almost all of the treatment units would have a post-Alternative 1 treatment SDI <417. Additionally, based on Table 6 of the Vegetation Management Report, most of the Alternative 3 treatment units would have a post-treatment SDI <417. Therefore, based in this criterion, it appears that Alternatives 1 and 3 largely achieve forest health goals at the stand scale. Additionally, according to U.S. Forest Service Region 5 Guidance (refer to Appendix A), treatments should reduce SDI to less than 60% of SDI_{max} (i.e., 455 for this project) for 20 years. This is guidance that has been cited on several recent Tahoe National Forest projects we have commented on. Again, according to Tables 2 and 6, the proposed action and Alternative 3 both achieve the Regional Guidance for forest health on almost all

units. Please clarify how it was determined that stands should be thinned more intensely from an SDI perspective.

Response: The referenced Regional guidance provides 60 percent of SDI as an example and not a prescriptive rule. As stated on page 2 of the Vegetation Management Report, an additional objective of the project is to maintain the presence of shade intolerant species in the treated stands. This requires also assessing SDI based on the least shade tolerant species present for the purposes of maintaining these species. Applying a target of 55 percent to an SDI of 571 for ponderosa/Jeffery pine results in a target SDI of 314 to maintain shade intolerant species. Although most of the units would have a post treatment SDI of less than 417, when projected out to 20 years from treatment as suggested by the referenced memo, 11 stands are over the 417 basal area threshold for assessing effects of tree competition in Alternative 1. Additionally 7 of the 12 stands which were changed from mechanical or small trees mechanical thinning in Alternative 1 to hand thinning in Alternative 3 are over an SDI of 417 at year 20. Therefore the Regional guidance metric is met less often in Alternative 3 than in Alternative 1.

27. **Comment:** Based on the Vegetation Management Report (Table 2, SFL EA Comments on French Meadows 3 pgs. 17-22), we were unable to find more than a unit or two that would have a post-treatment SDI less than 230. Please clarify how it was determined that SDI would be greater than 230 on most units following treatment under Alternative 1.

Response: Post treatment SDI of less than 230 was a silvicultural goal of the project, but it was not possible to reach in most instances due to canopy retention requirements of the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51. The Vegetation Management Report figures reflect what is more likely to be attainable given these requirements.

28. **Comment:** We support Alternative 1. Alternative 3 would only improve forest health and fuels conditions on a limited time basis in comparison to Alternative 1. Alternative 3 has costly hand work labor and prescribed fire for accomplishing treatments. Neither of which will have the long term benefits associated with Alternative 1. In the Ground-Based Mechanically Thinning Units (Natural Stands) the SDI and Basal Area retentions requirements should be on the lower end of the allowable spectrum to allow for future ingrowth, longevity of the fuels reduction work, and future stand canopy closure.

Response: Chapter 2 of the EA states, "In Alternative 3, where approximately 2,640 acres of hand thinning and prescribed fire is substituted for mechanical thinning, the density and species composition would remain largely unchanged because the medium-sized shade tolerant trees such as incense cedar and white fir would be mostly unaffected, so a high density of fir and cedar would persist at the stand and landscape scale" (EA p. 37). Alternative 1 (Proposed Action) "prioritizes fuels reduction and longer-term forest health and resilience while maintaining habitat for old forest associated species, including the California spotted owl, compared to Alternative 3 which prioritizes maintaining the current condition of habitat for the owl over the short-term at the expense of effective fuels reduction and longer-term forest health and resilience" (EA p. 37).

29. **Comment:** In the Ground-Based Mechanically Thinning Units (Natural Stands) the SDI and Basal Area retentions requirements should be on the lower end of the allowable spectrum to allow for future ingrowth, longevity of the fuels reduction work, and future stand canopy closure.

Response: Treatments were designed to be consistent with the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) 2004, pp. 50 through 51.

30. **Comment:** The expected timber harvest is projected to be 8,402 mbf over 2,082 acres which averages out to 4 mbf/acre. This is very low volume per acre for a mechanized mechanical logging side to operate and any additional merchantable saw timber that can be generated would assist the economics

for implementing the Project. The costs of implementing all Activities is very high and removal of saw timber in an economical manner will help to offset these costs as well as put much needed wood products into the market place.

Response: Thank you for your comment. The proposed action prioritizes fuels reduction and longer-term forest health and resilience while maintaining habitat for old forest associated species, including the California spotted owl, rather than seeking to maximize volume per acre.

31. **Comment:** The French Meadows Basin is within the headwaters of the Watershed and the Proposed Action for the Project is well worth the investment that has been made to date and in the future.

Response: We considered the values at risk when developing the purpose and need and the resulting proposed action.

32. **Comment:** Please apply Dr. Jack Cohen's fine fuels removal methods to further reduce the risk to people's homes and the lives of family members in the WUI areas that are at risk should a wildfire start nearby. Not proposing to apply Dr. Cohen's fine fuel removal methods in this draft EA shows you are more concerned with the volume generated by fuels logging than you are someone's home and the lives of their family members.

Response: The Forest Service does not dispute the findings of Dr. Cohen's research on the role of defensible space in reducing home losses in the wildland urban intermix. However, no homes exist within the French Meadows area. Additionally, fuels removal on private land is not subject to Forest Service control and responsibility and is therefore outside the scope of the French Meadows Project proposal. Recommending specific guidelines for homeowners is outside the scope of the French Meadows Project as well.

The French Meadows Project objectives include taking action to improve forest and watershed health and resilience, to enhance wildlife habitat, and to reduce the risk of uncharacteristic, high-severity wildland fire. The fuel reduction treatments are designed to reduce wildfire intensity to allow safe fire suppression as well as restore more natural fire processes. Fuels modeling results presented in Chapter 2 indicate that the proposed fuels treatments would reduce the intensity and severity of wildfires within the Project area.

Hazardous fuels reduction treatments aligned with Dr. Cohen's methods are proposed in some units within the French Meadows Project. These units are in and around the Wildland Urban Intermix (WUI), and focus on the reduction of hazardous fuels followed by prescribed burning. In this Project, the WUI defense zone was identified to protect the valuable water delivery and hydropower infrastructure associated with the French Meadows Reservoir. The WUI defense zone buffers the facilities, consistent with Forest Plan direction for delineating defense zones (SNFPA ROD, pg. 40).

33. **Comment:** One of your fellow USFS employees' research conclusions indicates fine fuels removal is far superior to commercial hazardous fuels logging farther away from the WUI than 100 yards, yet your draft EA EIS doesn't mention Dr. Cohen's research conclusions. Dr. Cohen states several times in the many scientific papers he authored that commercial fuels removal farther than "100 to 200" feet from the WUI is ineffective. Why then do you propose widespread fuels logging?

Response: Please refer to response to Comment 32. The French Meadows Project objectives include taking action to improve forest and watershed health and resilience, to enhance wildlife habitat, and to reduce the risk of uncharacteristic, high-severity wildland fire. The fire and fuels analysis (EA, Chapter 2, Achievement of Purpose and Need) demonstrates that the proposed action would significantly reduce the risk of high-severity wildfire.

34. **Comment:** 40 CFR 1502.9(b) requires meaningful responses to all “responsible” opposing views. If the Responsible Official feels the opposing view is irresponsible then please describe why. The law does not exclude opposing views because of the source. Opposing views contained in newspapers, magazines, and other sources are still opposing views and require a response. Please do not conclude an opposing view is not responsible because they are opinions. “Viewpoint” and “opinion” are synonyms.

Response: The Forest Service appreciates hearing about new science and views that could affect the project. In the opposing views provided by the commenter, two themes were prominent and the associated science was reviewed and considered by the Forest Service. The first theme, *Reducing the vulnerability of structures to ignition from wildfires requires reducing fuels immediately adjacent to structures (Cohen research)* is addressed above under comments 32 and 33. The second theme of *Forest thinning can result in increased surface fire behavior and rate of fire spread* is addressed in the EA under FONSI element #4 - The degree to which the effects on the quality of the human environment are likely to be highly controversial.

35. **Comment:** The public does not want natural resources in their public land that will be inherited by future generations to be destroyed in order to provide corporate profit opportunities. Opposing Views Science Attachment #10 gives the results of 16 statistically significant nationwide polls revealing the public’s feelings about national forest logging. Depending on the poll between 63% and 81% didn’t want logging.

The French Meadows timber sale will take away more undeveloped national forest acres from the legacy the unborn kids of the future should inherit. Which is most important: the future kids of America seeking solitude and quietness, or another summer home and yacht for the CEO of the timber extraction corporation that purchases this timber sale? Do the IDT members have the courage to ask themselves why the USFS defies the wishes of the American public by logging and roading-up the precious national forest land? How can an agency mandated to serve the public do so by taking action the public does not want or like?

Response: The commenter’s viewpoint is one of the many different and diverse views held among the American public about how their national forests should be managed. The Forest Service’s mission is to sustain the health, diversity and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations. National forests are managed in accordance with this mission and the laws, regulations and policies that guide national forest management. For site-specific projects, like the French Meadows Project, the Forest Service must adhere to the National Forest Management Act, National Environmental Policy Act, Clean Water Act, Endangered Species Act, National Historic Preservation Act, and many other laws that guide forest management and provide for environmental protection for activities undertaken on National Forest System lands.